The Lepidopterological Society of Japan

THE LIST OF THE SUBFAMILY ITHOMIINAE (LEPIDOPTERA : DANAIDAE) COLLECTED DURING THE EXPEDITION "LA EXPEDICION JAPONESA A LAS ZONAS AMAZONICAS, 1973"

MAYUMI TAKAHASHI
11-13, Kita andô 5 chôme, Shizuoka-shi, Shizuoka, 420 JAPAN

The Ithomiinae (Danaidae) are mainly distributed in the Neotropical Region and well known to exhibit highly developed "Müllerian mimicry" between the tiger-coloured Heliconian butterflies. In this paper, 25 species belonging to the four tribes, such as Tithoreini, Melinaeini, Mechanitini and Napeogenini are reported. The author participated in the expedition "La Expedición Japonesa a las Zonas Amazónicas, 1973", which was organized by the explorative association "Congreso Andinista del Japón" and the Kyôdô Press. Most of these butterflies were collected by the author and a few of them by Mr. Ryôzô Yamamoto and Mr. Nobuo Kawakami during the expedition, who were members of the expedition. In addition to the data of those butterflies, the list includes the data of the specimens which were collected by Dr. Leopoldo Richter in the Cotuhé River, near the southern limit of Colombia. The author already reported a new species *Sais browni* collected in Mitú, Vaupés, Colombia (Takahashi, 1977b). Classification of these butterflies is based on monographs of Fox (1956, 1960, 1961, 1967), of Fox & Real (1971) and revisions of Brown (1976a, 1976b, 1977).

The author expresses his cordial thanks to Dr. Keith Brown Jr. (Universidade Estadual de Campinas, São Paulo), Dr. Takashi Shirôzu (Kyûshû University, Fukuoka), Dr. Yoshihiko Kurosawa (National Science Museum, Tôkyô) and Dr. Kôroku Negishi (Kanazawa University, Kanazawa), who gave him kind helps for investigation. Many thanks are also due to Dr. Ernesto W. Schmidt-Mumm (Bogotá), Dr. Leopoldo Richter (Bogotá), Mr. Ryôzô Yamamoto (Tôkyô), Mr. Nobuo Kawakami (Tôkyô) and Mr. Tôru Okamoto (Tôkyô), who gave the author kind advices and valuable informations or specimens during the expedition.

Surveyed localities

Colombia

Departamento del Chocó : vicinity of Quibdó (La Troje)
Departamento de Antioquia : the Cauca River (La Pintada)
Departamento de Cundinamarca : the eastern slope of the Cordillera Oriental (Guayabetal)
Departamento del Meta : vicinity of Villavicencio (Cerro Cristo Rey, Río Guatiquía, Río Guayuriba)
Intendencia del Caquetá : vicinity of Florencia (West of Florencia, San José)
Comisaría del Vaupés : Mitú
Comisaría del Amazonas : Leticia, Río Cotuhé

Perú

Departamento de Huánuco : the Huallaga River (Tingo María)
Departamento de Madre de Dios : the Madre de Dios River (Puerto Mardonado)

The list of the Ithomiinae

A. Tithoreini

1a. *Tithorea harmonia furina* Godman & Salvin (Fig. 1, 2)
2♂♂, 1♀, Río Guatiquía, Aug. 20.

1b. *Tithorea harmonia egaensis* Butler (Fig. 3)
This subspecies was found abundantly in a sunny forest side flying together with similar

NII-Electronic Library Service

The Lepidopterological Society of Japan

patterned *Heliconius* (*Eueides*) *isabella isabella* Cramer.

2♂♂, Tingo María, July 24; 1♀, same locality, July 25; 4♂♂, 3♀♀, same locality, July 26.

B. Melinaeini

2. *Melinaea ludovica idae* (C. & R. Felder) (Fig. 4)

It was collected in a forest side, where was seen similarly patterned *Heliconius* (*Heliconius*) *hecale melicerta* Bates.

1♀, Zabaletas, Aug. 11.

3. *Melinaea ethra maelus* (Hewitson) (Fig. 5)

One female was collected in the tropical rain forest of Leticia.

1♀, Leticia, Sept. 9.

4. *Melinaea menophilus menophilus* (Hewitson) (Fig. 6)

1♀, Río Guayuriba, July 31.

5. *Melinaea maenius simulator* Fox (Fig. 7)

It was found in the forest side of Tingo María, where was seen similar patterned *Heliconius* (*Heliconius*) *numata bicoloratus* Butler.

1♀, Tingo María, July 25.

C. Mechanitini

6. *Xanthocleis psiidii ino* C. & R. Felder (Fig. 8)

One male was collected at the river-side forest near Florencia.

1♂, West of Florencia, Aug. 25.

7. *Forbestra truncata juntata* (Haensch) (Fig. 9)

1♂, Tingo María, July 26.

8. *Forbestra proceris* (Weymer) (Fig. 10)

1♀, Río Cotuhé, Aug. 4–7, 1972, L. Richter leg.

9a. *Mechanitis polymnia caucaensis* Haensch (Figs. 11, 12)

Specimens collected in La Pintada, Cauca Valley, include a few of transitional forms between the subspecies *caucaensis* and *veritabilis* (Fig. 12).

1♀, La Troje, Sept. 3; 1♂, 1♀, Zabaletas, Aug. 11; 1♀, near Bajo Calima, Aug. 12; 3♂♂, 9♀♀, La Pintada, Aug. 30; 1♀, same locality, Aug. 31.

9b. *Mechanitis polymnia veritabilis* Butler (Fig. 13)

2♀♀, Cerro Cristo Rey, July 29; 1♂, same locality, Aug. 7; 1♂, Río Guatiquía, July 30; 1♂, 1♀, same locality, Aug. 20; 1♂, Río Guayuriba, July 31; 1♂, 1♀, same locality, Aug. 22.

9c. *Mechanitis polymnia doryssides* Staudinger (Figs. 14, 15)

In the tropical rain forest of Leticia, southern limit of Colombia, three males of *doryssides* and a male of *eurydice* were collected without any transitional form.

2♀♀, Leticia, Sept. 9; 1♀, near Leticia (Brasilian territory), Sept. 12.

9d. *Mechanitis polymnia eurydice* Haensch (Figs. 16, 17)

Specimens collected in the west of Florencia and San José, on the base of the Cordillera Oriental, exhibit a series of transitional forms between *eurydice* and *veritabilis*, which are regarded as inter-subspecific hybrids. Fig. 16 is an aberrant form.

1♂, 4♀♀, West of Florencia, Aug. 25; 6♀♀, San José, Aug. 26; 1♂, Leticia, Sept. 9; 4♀♀ Tingo María, July 24; 4♀♀, same locality, July 25; 1♂, 2♀♀, same locality, July 26.

10a. *Mechanitis mazaeus mazaeus* Hewitson (Figs. 18, 19)

1♀, Río Guayuriba, Aug. 22; 1♀, Tingo María, July 24.

10b. *Mechanitis mazaeus messenoides* C. & R. Felder (Figs. 20, 21)

In the Guayuriba River, near Villavicencio, *messenoides* was seen flying together with *mazaeus*. One of the collected specimens of the former has a diffused yellow crescent band in the subapical area of the forewing, which is generally seen in the latter.

4♂♂, Guayabetal, Aug. 1; 1♂, Río Guayuriba, July 31; 3♂♂, same locality, Aug. 22.

10c. *Mechanitis mazaeus deceptus* Butler (Fig. 22)

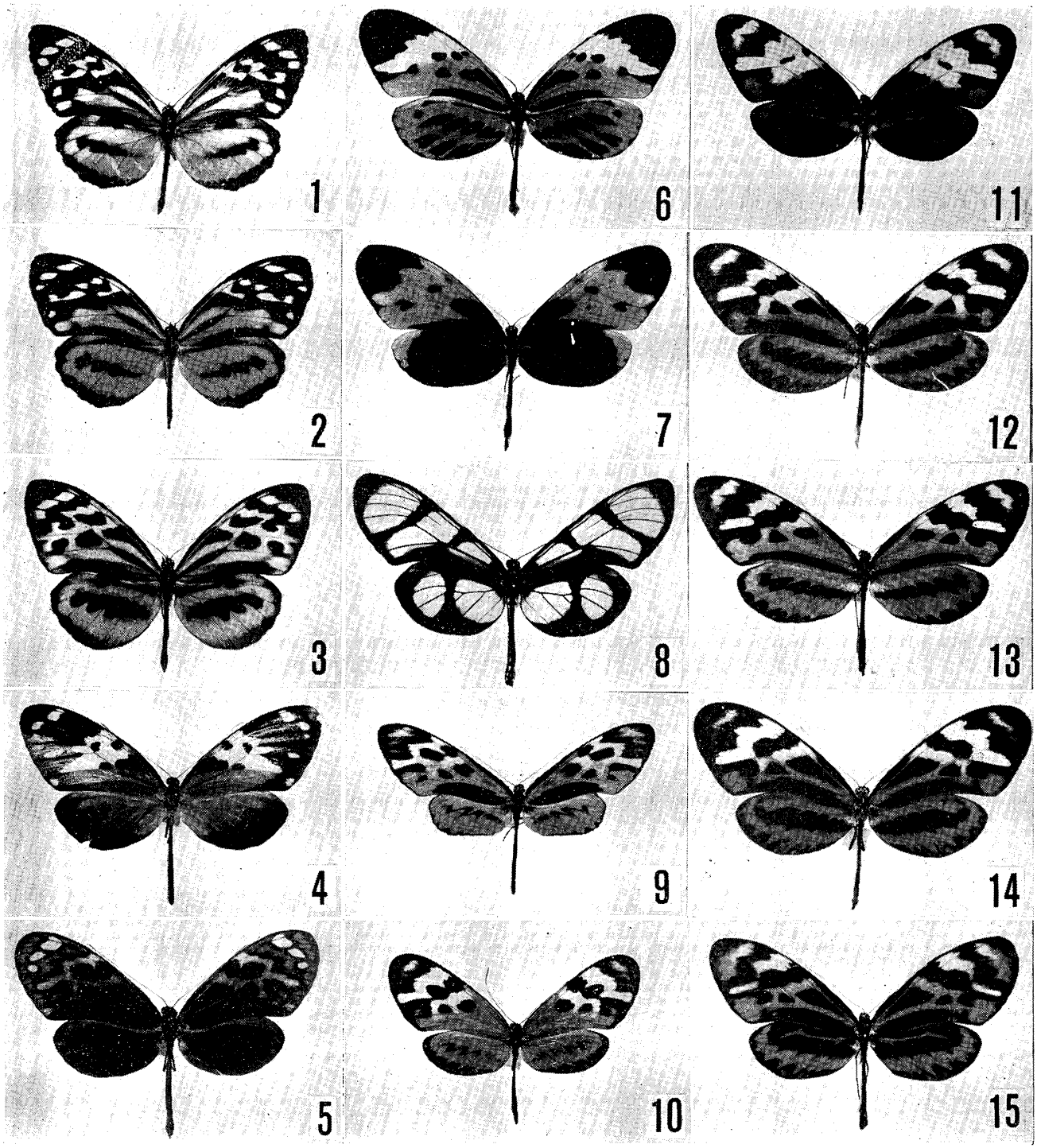
1♂, San José, Aug. 26.

11. *Mechanitis menapis occasiva* Fox (Fig. 23)

1♂, La Pintada, Aug. 30.

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 1—15. Ithomiinae: (1) *Tithorea harmonia furina* Godman & Salvin, ♂, Río Guatiquía, Aug. 20, FL 38.2 mm; (2) do., ♀, same data, FL 37.2 mm; (3) *T. h. egaensis* Butler, ♀, Tingo María, July 26, FL 40.7 mm; (4) *Melinaea ludovica idae* (C. & R. Felder), ♀, Zabaletas, Aug. 11, FL 39.4 mm; (5) *M. ethra maelus* (Hewitson), ♀, Leticia, Sept. 9, FL 39.3 mm; (6) *M. menophilus menophilus* (Hewitson), ♀, Río Guayuriba, July 31, FL 41.4 mm; (7) *M. maenius simulator* Fox, ♂, Tingo María, July 25, FL 41.1 mm; (8) *Xanthocleis psiidii ino* C. & R. Felder, ♂, West of Florencia, Aug. 25, FL 41.4 mm; (9) *Forbestra truncata juntata* (Haensch), ♂, Tingo María, July 26, FL 34.2 mm; (10) *F. proceris* Weymer, ♀, Río Cotuhé, Aug. 4–7, 1972, FL 31.7 mm; (11) *Mechanitis polymnia caucaensis* Haensch, ♀, La Pintada, Aug. 30, FL 36.9 mm; (12) do., ♀, same data, FL 36.1 mm; (13) *M. p. veritabilis* Butler, ♀, Cerro Cristo Rey, July 29, FL 38.8 mm; (14) *M. p. doryssides* Staudinger, ♀, Leticia, Sept. 9, FL 36.6 mm; (15) do., ♀, same data, FL 32.9mm.

NII-Electronic Library Service

The Lepidopterological Society of Japan

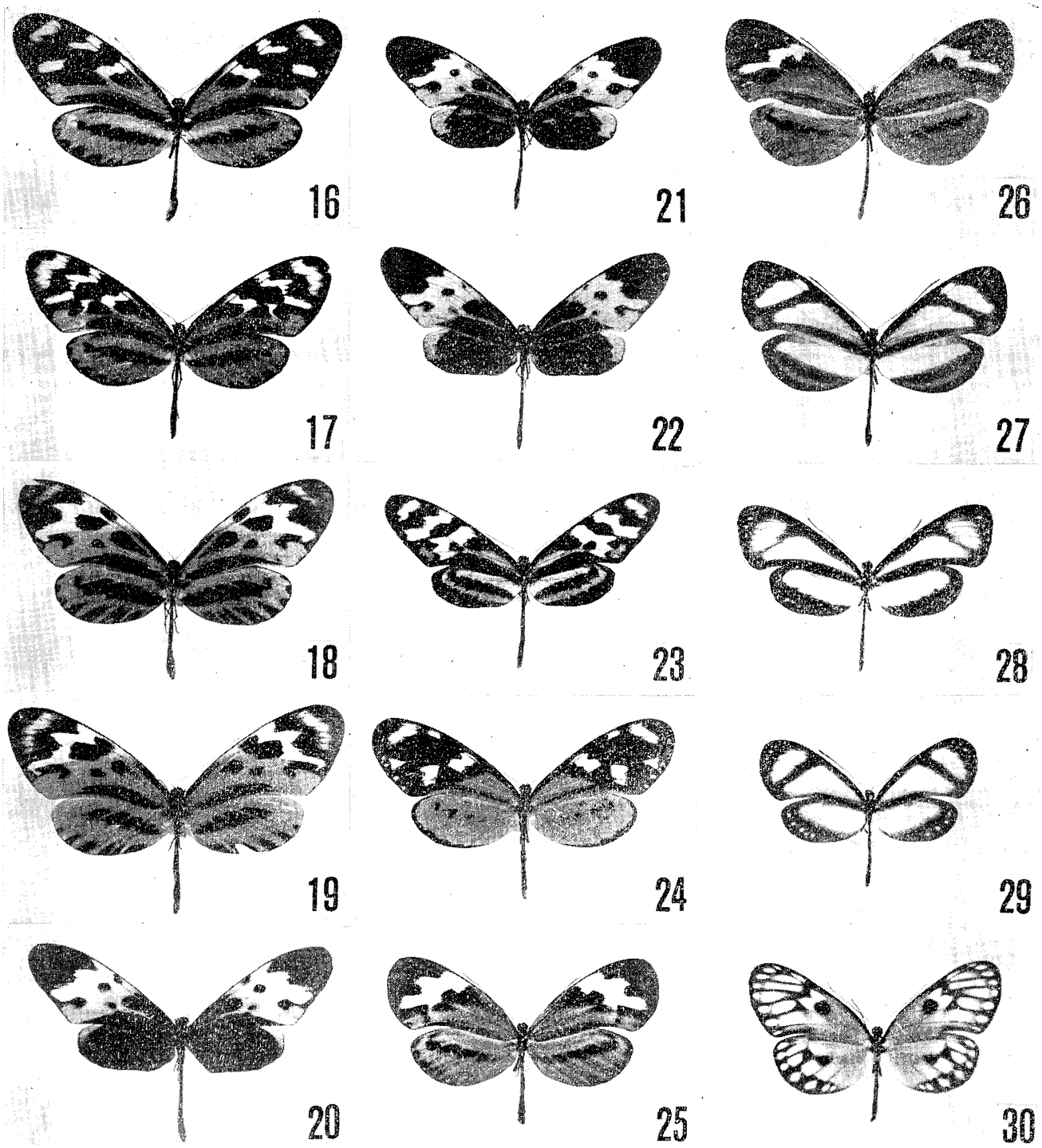
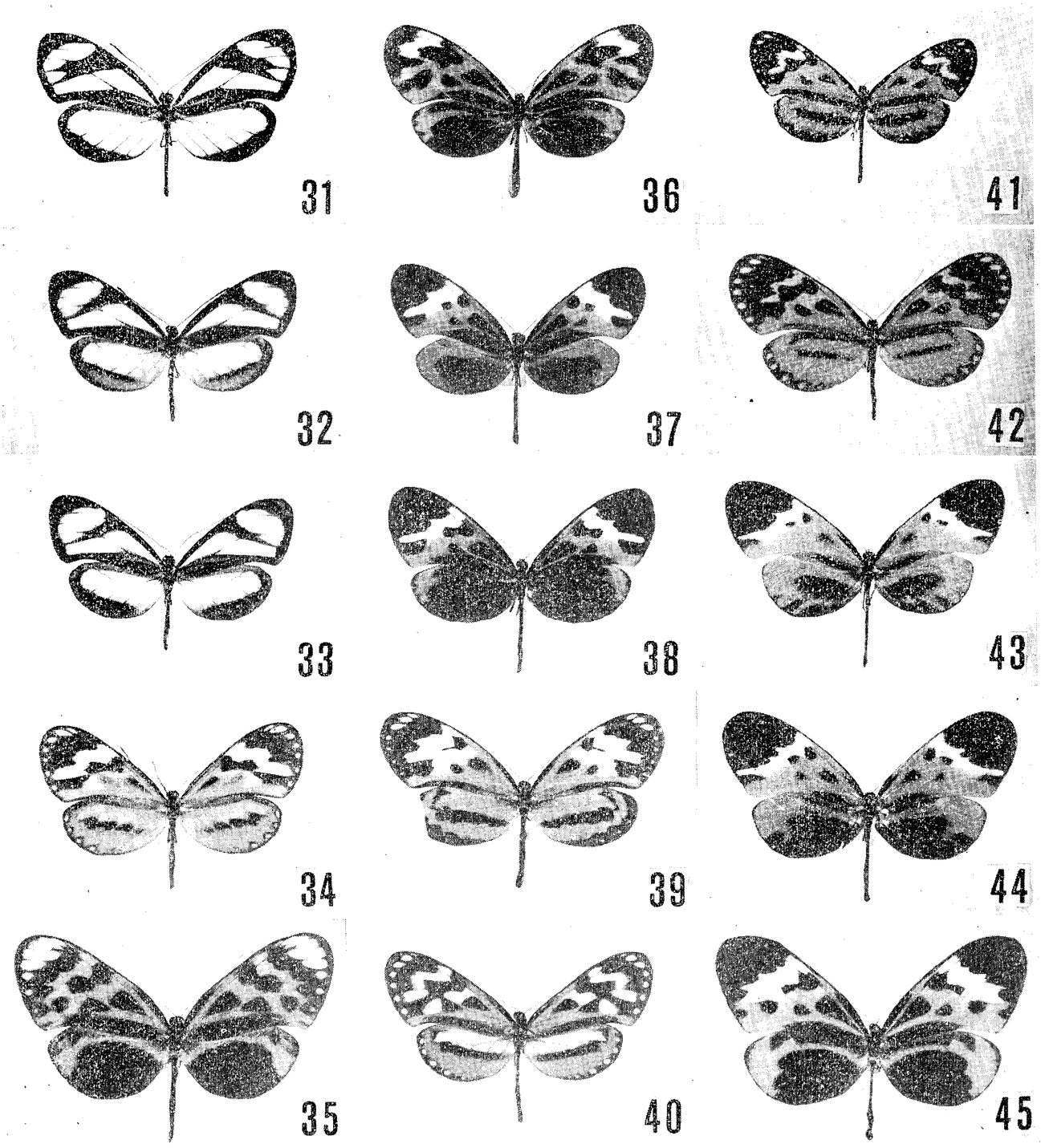


Fig. 16—30. Ithomiinae: (16) *Mechanitis polymnia eurydice* Haensch, ♀, West of Florencia, Aug. 25, FL 33.7 mm; (17) do., ♀, San José, Aug. 26, FL 37.9 mm; (18) *M. mazaeus mazaeus* Hewitson, ♀, Río Guayuriba, Aug. 22, FL 38.8 mm; (19) do., ♀, Tingo María, July 24, FL 40.9 mm; (20) *M. m. messenoides* C. & R. Felder, ♂, Guayabetal, Aug. 1, FL 37.3 mm; (21) do., Río Guayuriba, July 31, FL 33.7 mm; (22) *M. m. deceptus* Butler, ♂, San José, Aug. 26, FL 30.8 mm; (23) *M. menapis occasiva* Fox, ♂, La Pintada, Aug. 30, FL 33.8 mm; (24) *M. lysimnia elisa* (Guérin-Maneville), ♀, Tingo María, July 25, FL 36.6 mm; (25) *Sais rosalia promissa* Weymer, ♀, Mitú, Aug. 16, FL 27.7 mm; (26) *S. r. mosella* (Hewitson) ♂, Río Guatiquía, Aug. 20, FL 29.7 mm; (27) *S. browni* Takahashi ♂, holotype, Mitú, Aug. 16, FL 25.6 mm; (28) *Scada zibia zeroca* Fox, ♂, Zabaletas, Aug. 11, FL 21, 4 mm; (29) *S. batesi* Haensch, ♂, Mitú, Aug. 17, FL 19.0 mm; (30) *Napeogenes stella stella* (Hewitson), ♀, La Pintada, Aug. 31, FL 26.6 mm.

NII-Electronic Library Service

The Lepidopterological Society of Japan



Figs. 31—45. Ithomiinae: (31) *Napeogenes ithra rindgei* Fox & Real, ♀, Tingo María, July 26, FL 21.8 mm; (32) *N. inachia johnsoni* Fox & Real, ♀, Río Guayuriba, July 31, FL 23.9 mm; (33) *N. i. pharo* (C. & R. Felder), ♀, San José, Aug. 26, FL 22.4 mm; (34) *Rhodussa cantobrica pamina* (Haensch), ♀, Tingo María, July 24, FL 24.3mm; (35) *Hypothyris aemilia soror* (Srnka), ♀, Río Cotuhé, Aug. 4-7, 1972, FL 33.3 mm; (36) *H. fluonia pardalina* (Hopffer), ♀, Aug. 4-7, 1972, FL 28.2 mm; (37) *H. f. rowena* Hewitson, ♂, Cerro Cristo Rey, July 29, FL 25.0 mm; (38) do., ♀, Río Guatiquía, Aug. 20, FL 26.8 mm; (39) *H. euclea philetaera* (Hewitson), ♀, Zabaletas, Aug. 11, FL 29.3 mm; (40) *H. e. intermedia* (Butler), ♂, Guayabetal, Aug. 1, FL 27.3 mm; (41) *H. e. peruviana* (Staudinger), ♂, Tingo María, July 25, FL 28.7 mm; (42) *H. e. callanga* (Haensch), ♀, Puerto Mardonado, July 24, FL 28.8 mm; (43) *H. amica pallisteri* Fox & Real, ♂, Tingo María, July 25, FL 29.4mm; (44) do., same data, FL 30.7 mm; (45) *H. lycaste honesta* (Weymer), ♀, San José, Aug. 26, FL 33.1 mm.

NII-Electronic Library Service

The Lepidopterological Society of Japan

12. *Mechanitis lysimnia elisa* (Guérin-Maneville) (Fig. 24)
1♀, Tingo María, July 25.

13a. *Sais rosalia promissa* Weymer (Fig. 25)
2♀♀, Mitú, Aug. 16.

13b. *Sais rosalia mosella* (Hewitson) (Fig. 26)
The subspecies *mosella* has been known from the Santa Marta region of Colombia east through northern Venezuela (Fox, 1967). The auther reports this subspecies from the vicinity of Villavicencio for the first time. The locality is probably situated at the southern limit of its range.
1♂, 1♀, Río Guatiquía, Aug. 20.

14. *Sais browni* Takahashi (Fig. 27)
The author described it as a new species in the preceding paper (Takahashi, 1977b). It was collected in the tropical rain forest along the Vaupés River, a branch stream of the Amazon River.
3♂♂, Mitú, Aug. 16.

15. *Scada zibia zeroca* Fox (Fig. 28)
1♂, Zabaletas, Aug. 11.

16. *Scada batesi* Haensch (Fig. 29)
2♂♂, Mitú, Aug. 17; 1♂, Río Cotuhé, Aug. 4-7, 1972, L. Richter leg.

D. Napeogenini

17. *Napeogenes stella stella* (Hewitson) (Fig. 30)
1♂, La Pintada, Aug. 30; 1♀, same locality, Aug. 31.

18. *Napeogenes ithra rindgei* Fox & Real (Fig. 31)
1♀, Tingo María, July 26.

19a. *Napeogenes inachia johnsoni* Fox & Real (Fig. 32)
2♀♀, Río Guayuriba, July 31; 2♀♀, same locality, Aug. 22.

19b. *Napeogenes inachia pharo* (C. & R. Felder) (Fig. 33)
1♂, 2♀♀, San José, Aug. 26.

20. *Rhodussa cantobrica pamina* (Haensch) (Fig. 34)
3♂♂, 6♀♀, Tingo María, July 24.

21. *Hypothyris aemilia soror* (Srnka) (Fig. 35)
2♀♀, Río Cotuhé, Aug. 4-7, 1972, L. Richter leg.

22a. *Hypothyris fluonia pardalina* Hopffer (Fig. 36)
2♀♀, Río Cotuhé, Aug. 4-7, 1972, L. Richter leg.

22b. *Hypothyris fluonia rowena* (Hewitson) (Figs. 37, 38)
This subspecies was abundantly found in the forest side near Villavicencio, flying together with similarly patterned *Heliconius* (*Heliconius*) *hecale ithaca* C. & R. Felder and *H.* (*H.*) *numata messene* C. & R. Felder.
2♂♂, Cerro Cristo Rey, July 29; 1♀, Río Guatiquía, July 30; 4♀♀, same locality, Aug. 20; 1♂, 1♀, Río Guayuriba, July 31; 1♂, 1♀, same locality, Aug. 22.

23a. *Hypothyris euclea philetaera* (Hewitson) (Fig. 39)
Only one male was collected, which was considered to be a hybrid between *philetaera* and *caldasensis*, so called "*nemea* (Weymer)".
1♀, Zabaletas, Aug. 11.

23b. *Hypothyris euclea intermedia* (Butler) (Fig. 40)
1♂, Guayabetal, Aug. 1; 1♀, San José, Aug, 26; 1♂ Mitú, Aug. 18.

23c. *Hypothyris euclea peruviana* (Staudinger) (Fig. 41)
1♂, 2♀♀, Tingo María, July 24; 1♂, same locality, July 25.

23d. *Hypothyris euclea callanga* (Haensch) (Fig. 42)
2♀♀, Puerto Mardonado, July 24, R. Yamamoto & N. Kawakami leg.

24. *Hypothyris amica pallisteri* Fox & Real (Figs. 43, 44)
1♂, 2♀♀, Tingo María, July 25.

25. *Hypothyris lycaste honesta* (Weymer) (Fig. 45)
It was found in the dense forest of San José, on the south-eastern base of the Cordillera Oriental flying together with similarly patterned *Heliconius* (*Heliconius*) *numata messene* C. & R. Felder.
2♀♀, San José, Aug. 26.

NII-Electronic Library Service

The Lepidopterological Society of Japan

Resumen

Se publica la lista de 25 especies de los Ithomiinae (Danaidae), las cuales pertenecen a las tribus siguientes: Tithoreini, Melinaeini, Mechanitini y Napeogenini. Estas mariposas fueron coleccionadas por "La Expedición Japonesa a las Zonas Amazónicas, 1973", principalmente en el territorio de Colombia. La lista contiene algunos datos notables biogeográficamente.

要　　約

"奥アマゾン探検, 1973" によって主としてコロンビアにおいて採集されたトンボマダラ亜科 (マダラチョウ科) 25種のリストを報告する. これらは, Tithoreini, Melinaeini, Mechanitini および Napeogenini の各族に属するものである. これらの採集記録には分布上注目すべきものもいくつか含まれている. (高橋真弓)

References

Brown, K. S. (1976a) Centros de evolução quaternários e conservação de patrimônios genéticos na região neotropical: padrões de diferenciação em Ithomiinae (Lepidoptera: Nymphalidae). Acta Amazonica, 7 (1): 75-137.

Brown, K. S. (1976b) Geographical patterns of evolution in neotropical Lepidoptera (Nymphalidae: Ithomiinae and Nymphalinae-Heliconini). Publications du Laboratoire de Zoologie de l'Ecole Normale Superieure, 9: 118-160.

Brown, K. S. (1976c) An illustrated key to the silvaniform *Heliconius* (Lepidoptera: Nymphalidae) with descriptions of new subspecies. Trans. Am. Entomol. Soc., 102: 373-484.

Brown, K. S. (1977) Geographical patterns of evolution in Neotropical Lepidoptera: differentiation of the species of *Melinaea* and *Mechanitis* (Nymphalidae, Ithomiinae). System. Entomol. 2: 161-197.

Fox, R. M. (1956) A monograph of the Ithomiidae(Lepidoptera), part 1. The tribe Tithoreini Fox. Bull. Am. Mus. Nat. Hist., 111: 1-76.

Fox, R. M. (1960) A monograph of the Ithomiidae (Lepidoptera), part 2. The tribe Melinaeini Clark. Trans. Am. Entomol. Soc., 86: 109-169.

Fox, R. M. (1961) A check list of the Ithomiidae, 1. Tribes Tithoreini and Melinaeini. J. Lep. Soc., 15: 25-33.

Fox, R. M. (1967) A monograph of the Ithomiidae (Lepidoptera), part 3. The tribe Mechanitini Fox. Mem. Am. Entomol. Soc., 22: 1-190.

Fox, R. M. & Real, H. G. (1971) A monograph of the Ithomiidae (Lepidoptera), part 4. The tribe Napeogenini Fox. Mem. Am. Entomol. Inst., 15: 1-368.

Haensch, R. (1909) Familie: Danaidae. In Seitz, Gross-Schmetterlinge der Erde, 5: 113-171.

Seitz, A. (1924) Danaidae. Gross-Schmetterlinge der Erde, 5: 1026-1029.

Takahashi, M. (1973) A list of the genera *Mechanitis* and *Melinaea* (Danaidae, Ithomiinae) collected in the Santa Marta Mountains and its vicinity, Colombia, South America. Tyô to Ga (Trans. Lep. Soc. Jap.), 23 (2): 43-45.

Takahashi, M. (1977a) The list of the subfamily Heliconiinae (Lepidoptera: Nymphalidae) collected in Colombia and the adjacent area, South America, during the expedition "La Expedición Japonesa a las Zonas Amazónicas, 1973", with description of a new subspecies. Tyô to Ga (Trans. Lep. Soc. Jap.), 28 (1): 9-24.

Takahashi, M. (1977b) A new species of the genus *Sais* (Lepidoptera: Danaidae). Tyô to Ga (Trans. Lep. Soc. Jap.), 28 (2): 43-45.

NII-Electronic Library Service